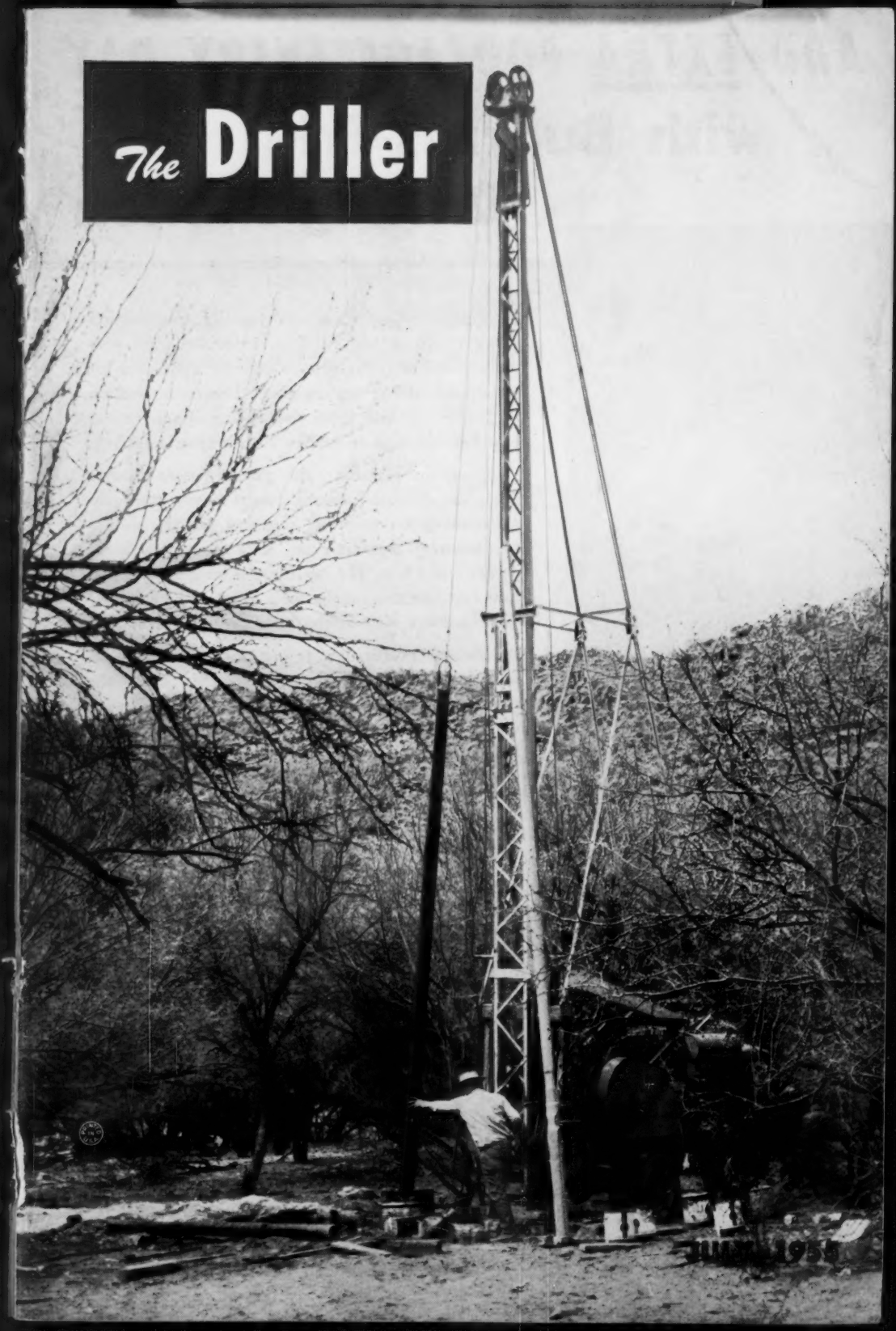
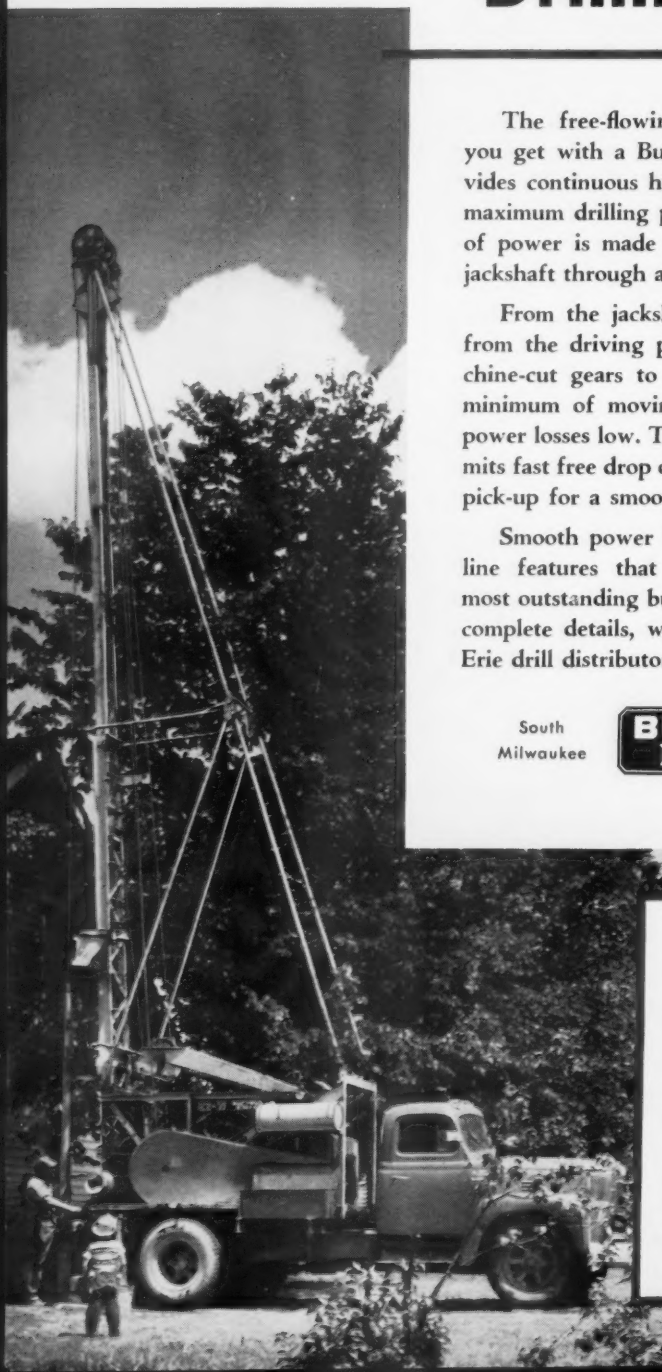

The Driller

ADD EXTRA FOOTAGE EVERY DAY

with Bucyrus-Erie Drilling Motion



The free-flowing, smooth power transmission you get with a Bucyrus-Erie water well drill provides continuous high-speed efficient operation for maximum drilling performance. Direct application of power is made from the engine clutch to the jackshaft through an endless flat compass-cord belt.

From the jackshaft, this power passes directly from the driving pinion through heavy steel machine-cut gears to crank pin and pitman with a minimum of moving parts, a factor which keeps power losses low. The resulting drilling motion permits fast free drop of the tools followed by a speedy pick-up for a smooth rhythmic drilling cycle.

Smooth power flow is just one of many headline features that make Bucyrus-Erie drills the most outstanding buy on the market today. To get complete details, write us or call on the Bucyrus-Erie drill distributor in your area. 31W55C

South Milwaukee **BUCYRUS ERIE** Wisconsin

20-W: Drills 4 to 6-in. holes
Maximum hole depth — 500 ft.
Maximum tool weight — 1,200 lbs.

22-W: Drills 4 to 8-in. holes
Maximum hole depth — 1,000 ft.
Maximum tool weight — 1,800 lbs.

60-L: Drills 6 to 12-in. holes
Maximum hole depth — 1,500 ft.
Maximum tool weight — 2,750 lbs.

We can make such beautiful money together!

When you combine your skill in finding water for your customers with Goulds century of know-how in *pumping* that water, you've got a profitable combination that's hard to beat.

Every time you specify a Goulds Water System — it means another satisfied customer. Satisfied customers tell others—and you make *more* money.

In fact, we *both* make more money—because we intend to go on making Goulds the *most wanted* pumps. Goulds is the world's largest exclusive manufacturer of pumps—giving you more to sell, with models and sizes to fit every possible running water requirement! So see the complete Goulds line at your distributor or write: Dept. TD-755.

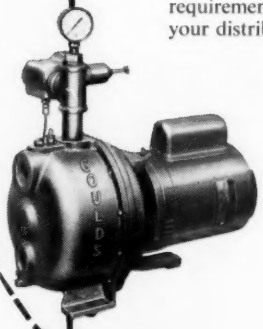


Fig. 3658 DEEP WELL JET . . . New, low cost, ½ and ¾ H.P. jet pumps for well depths to 150 ft. Famous Goulds features at a very popular price!

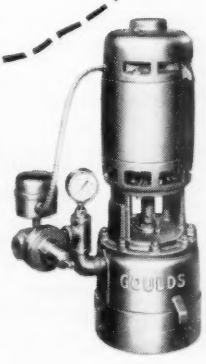


Fig. 3371 MULTI-STAGE JET For extra deep wells (to 200 ft.) where greater capacities and pressure are needed. Easy to install.

GOULDS PUMPS, INC.

SENECA FALLS, NEW YORK

Sales Leaders in JET *Water Systems*

(at left) The NEW Deming "75" Low Cost Convertible Jet Water System. A *top value*. Developed and named in celebration of the 75th Anniversary of DEMING PUMPS.

75th ANNIVERSARY DEMING PUMPS 1880 • 1955

(at right) The popular Deming "MINIJET" Convertible Jet Water System. A complete packaged unit, as illustrated. No extras to buy.

(at right) Deming Fig. 4963 Convertible Jet Water Systems. The complete line includes two pipe and single pipe systems in an exceptionally wide range of capacities.

* * *

Here, Mr. Well Driller, you have the three big Sales Leaders in Jet Water Systems . . . all top values in their respective price range!

Write NOW for free, illustrated bulletins on these fast-selling Deming Convertible Jet Water Systems.

THE DEMING COMPANY, 512 Broadway, Salem, Ohio

DEMING PUMPS

THE WELL DRILLERS' LINE

The Driller

Vol. 29 No. 7

July 1955

CONTENTS

On Our Cover . . . Far back in Verde National Forest 60 miles northeast of Phoenix, George L. Peterson sets up to drill for water which will supply sheep flocks which graze in the area. See picture-story beginning on page 10.

Mesa's Lone Wolf 10

Few professional people have as interesting or prosperous a life as driller George L. Peterson, who works alone and likes it.

Do You Have Ambitions for Your Business? 14

Business expansion plans involve a careful review of many factors. Here are some often overlooked points to keep in mind.

News of the Month 16

Legislative news from 6 states; general and manufacturer news.

Bits from the Wit Sharpener 34

Bargain Counter 36

Copyright 1955 by Excavating Engineer Publishing Co. Printed in U.S.A.

ADVERTISERS IN THIS ISSUE

Acme Fishing Tool Co.....27
Aeromotor Co. 32
Aurora Pump Co. 28
Bucyrus-Erie Co. 2, 35
Deacon Co., Inc., B. H.....38
Deming Co., The 4
Flint & Walling Mfg. Co...19
Foster Co., L. B. 8
Goulds Pumps, Inc. 3
Jacuzzi Bros., Inc. 6
Jensen Bros. Mfg. Co.....24
Macwhyte Co. 30
Mark, Clayton & Co..... 9
Moderne-Woodmanse Div., George Getz Corp. 31
Perfection Sales Corp.....23
Plastex Co., The 7
Red Jacket Mfg. Co.....26
Reda Pump Co. 17
Spinks Clay Co., Inc., H. C. 33
Sta-Rite Prod., Inc...20 & 21
Sumo Pumps, Inc. 39
Universal Mfg. Co. 25
U. S. Electrical Motors, Inc. 29

Published every month by Excavating Engineer Publishing Co.
South Milwaukee, Wisconsin

D. Stupek, Editor M. B. Jaeger, Publisher H. A. Burkhardt, Manager
J. C. DeLong, Assistant Editor W. C. Van Dyke, Managing Editor R. B. Sahs, Sales Manager
E. W. Arndt, Art Editor W. J. Walsh, H. W. Thornburg, Consulting Editors

Subscription price $1.00 per year Single copies 25 cents

Canada and Foreign, $2.00 per year

Free to water well drilling contractors and operators. No subscription, paid or free, can be accepted unless the subscriber's occupation is given. Right is reserved to refuse foreign subscriptions. Volumes available on microfilm.

New Completely Automatic water system for farm homes!

Jacuzzi DEEPRIME JET

Nothing else like it for uninterrupted water service... low operating cost

It's the greatest advance in pump engineering since Jacuzzi invented jet pumps. It's designed for shallow or deep wells to 300 feet. Hundreds already in use.

New Makes your well a satisfactory producer regardless of silt, gaseous water, low capacity or changing water levels.

New Eliminates all those common causes for breakdowns. Reprimes itself automatically after electric power failure. Shuts itself off whenever water level drops. Cuts power bills.

New Has all working parts above ground within easy reach. No motor or mechanism down in the well to clog with sand or burn out if your well gets pumped down.

Get the facts!
Write us for free illustrated bulletins.

Be Choosey . . . Recommend Jacuzzi!

JACUZZI BROS. INC.
4100 Bayless Ave. · St. Louis 23, Mo.
Factory branches and authorized dealers nationwide.

PLASTEX
10'
Symbol of Perfection
Everywhere the PLASTEX brand is recognized as an outstanding mark of quality. A reputation attained through constant research for a better product, careful selection of the finest, purest raw materials and an exacting manufacturing process which consistently produces pipe with unsurpassed standards in performance, durability and long life.
We invite you to join the many who proudly sell, install and profit with PLASTEX . . . hallmark of perfection in plastic pipe.
THE PLASTEX CO. – Columbus 3, Ohio
PLASTEX
SINCE 1939
Our Sixteenth Year of Achievement in Plastics

PIPE 1/8" thru 30"

Specializing in SUPPLYING PIPE for WATER WELLS and IRRIGATION SERVICE

Prompt Nation-wide Deliveries from One of the Nation's Largest Warehouse stocks...

- **SEAMLESS** • **LAPWELD** • **BUTTWELD**
- **ELECTRIC WELD** • **CONTINUOUS WELD**
- ***PUMP COLUMN SPECIALISTS***

Send for Free Pipe Catalog listing many valuable charts and engineering tables.

Try Foster for your pipe needs — you'll appreciate the fast, dependable convenience of buying from water-well pipe specialists — and always at lowest-possible prices. We also maintain complete SHOPPING FACILITIES — for every type of threading, bevelling and fabrication work.

Call on Foster for All Your Needs—

RAILS • SWITCH MATERIAL
TRACK ACCESSORIES – TOOLS
WIRE ROPE AND SLINGS

L.B. FOSTER co.

Pittsburgh 30, Pa. • New York 7, N.Y. • Chicago 4, Ill.
Houston 2, Texas • Los Angeles 5, Cal. • Atlanta 8, Ga.

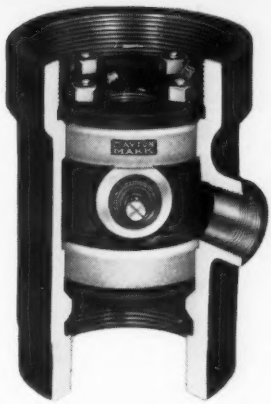
MORE profits— customers— pitless adapters with the MARK

Both you and your customers profit with MARK pitless adapters. Lasting customer satisfaction is guaranteed by using an adapter which is less costly and more sanitary than a pump pit.

You have less work and more profit through quicker installation and ease of removing all working parts in the well for repair.

MARK pitless adapters are designed to meet sanitary health code requirements. Frost protection is assured for many years.

Get all the facts now. Write today!



CLAYTON MARK
& COMPANY
1900 Dempster Street
Evanston, Illinois

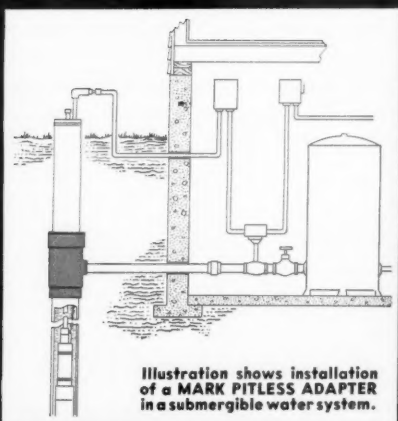


Illustration shows installation of a MARK PITLESS ADAPTER in a submergible water system.

MORE outstanding MARK FEATURES!

Easy replacement . . .

Three piece internal assembly and cup leathers easily accessible. Secured by non-corroding stainless steel bolts.

Easy removal . . .

Brass bottom plate cannot corrode and freeze to adapter housing. Interior of adapter housing relieved to protect against lime scale.

Easy repair . . .

Complete brass valve assembly easily removed for repair or replacement.

Mesa's Lone Wolf

Few professional people have as interesting or prosperous a life as driller George L. Peterson, who works alone and likes it.

by Ray Day

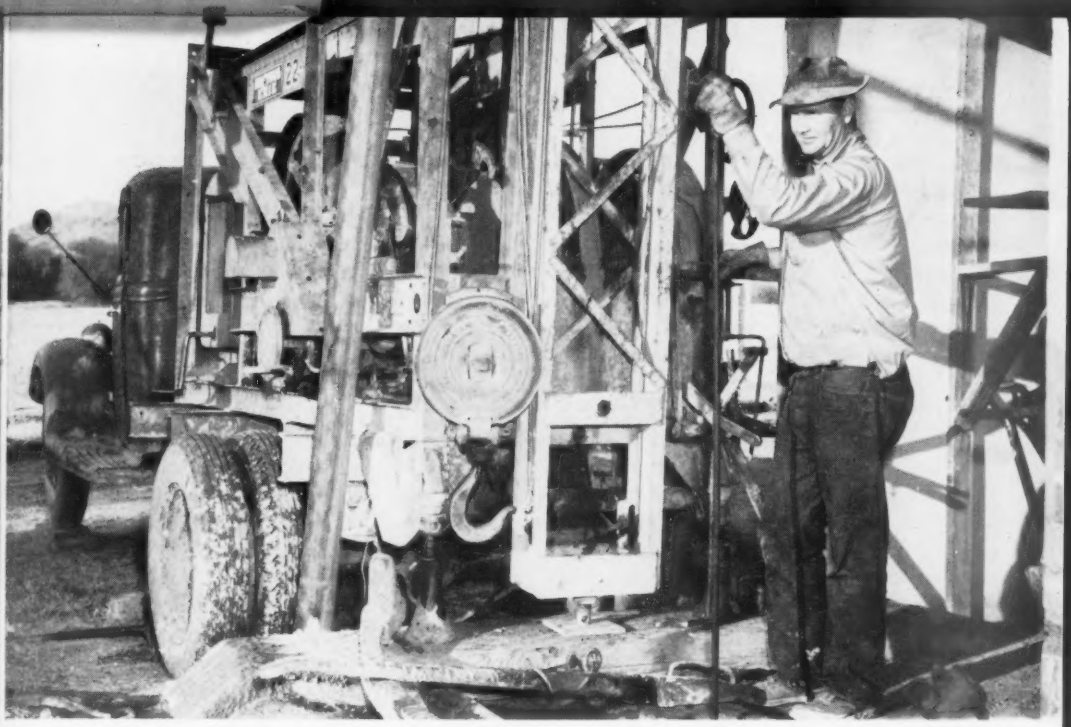
"THE sorriest driller in the world is the one who can't go to work if his helper is sick. There are such drillers."

That candid observation comes from George L. Peterson of Mesa, Arizona. Peterson, who has been working with a drill rig since back in 1927, would know what he's talking about. Exemplifying his theory that the water well drilling business offers a satisfying living in a measure not to be found even in many professional callings, Mesa's lone-wolf driller has put down some of the best producing wells in Arizona's Salt River Valley.

Peterson is the type man who would have been a success whether he worked alone or with a gang of helpers and many drills. But he prefers his lone-wolf role. Working alone practically all the time with his Bucyrus-Erie 22-W well drill, Peterson easily changes his own tools, sets casing, and does all the things which drillers have to do to keep a rig working. By farming out some of the side jobs, like bit sharpening, for example, to the specialty firm of Ray Steel & Welding Co., he has more time for drilling. A good sharpening job costs Peterson only $6 per bit, which is cheaper than he could do the job himself.

Peterson has several definite ideas about the drilling business, including a basic belief that a lone driller working with one good machine can do

Family portrait: son Paul, driller George Peterson, daughters Janice and Linda, wife Margaret. One other son is not in the picture. Occasion for the gathering was a family picnic in Verde National Forest, where Peterson is putting down a well.



Operating alone, George Peterson works on an 8-in. diameter domestic well near Mesa, Arizona.

just about as well financially — to say nothing of the values in human happiness — as any professional person of average standing. He proves his point by keeping busy week after week.

Domestic Wells His Forte

The backbone of Peterson's business consists of the drilling of domestic water wells, usually in the eight-inch-diameter class. Some of the wells, of course, are bigger than that, going up to 12 inches in diameter, and some are smaller. They range from 250 to 600 feet deep, with 400 feet a fair average. The Salt River Valley is an area of excessive pumping, so the water table throughout that region is dropping reasonably fast. It is an area of heavy alluvial formations, sprinkled with river boulders and lenses of clay and sand.

The principal water-bearing formations occur in the pervious waterbearing seams, but water is found also in clay strata. Peterson has even found water in solid granite formations. One of his toughest jobs, two years ago, was drilled through solid bull granite, so hard that the last five inches of the hole took five hours of drilling. Done for customer S. T. Neely, in "Yaiqui Town" at Guadalupe, Ariz., the 8-in. domestic well went down 175 feet, and required two months of drilling. Actually, the well started out at eight-inch diameter, went to 75 feet at that size, and dropped to six inches thereafter. But it produced a fair flow of good quality water.

One of Peterson's better wells is located at the Coolidge Golf Course. Drilled into pervious water-bearing material, it produces approximately 600 gpm on a dependable basis. Another good Peterson well is a 1,000-

gpm installation at the Arizona Agricultural Experiment Station. That one, he is inclined to think, was ruined to some extent by overperforating the casing, a sometimes dangerous practice in alluvial fan formations. Peterson is in the habit of casing all boulder formations. But for domestic use, at least, he does not perforate on a low-pull pump assignment. Only where flows over 200 gpm are required will he consider perforating, and then only where he is reasonably sure the pump pull can keep the sand cleared away.

An important lesson these days, which Peterson has learned from bitter experience, is the importance of checking personally every coupling on a pipe casing. Too often he finds, threads on the end of pipe casing are defective. Two years ago on a domestic water well job, Peterson was down 480 feet and was drilling along in good shape. He was following his usual practice of drilling an exceptionally plumb hole, and was carrying his casing along with the drill. The pipe was in place and was following good. But deep down in that pipe casing somewhere was a defective coupling, which Peterson had used against his better judgment. He had become suspicious of this coupling when he saw that the sleeve had been anchored to the pipe with three small spot welds. As the drill bit went deeper into the earth, the weight on the string of casing finally got too much for the defective coupling, and it snapped off. Peterson was sick, because he knew the chances of recovering the casing without losing the hole entirely were remote.

Set up in close quarters over a previously drilled well, Peterson's 22-W gets the stage set for a major deepening job to produce more water.

Casing Reinforcement

The owner for whom the work was being done, however, was one of those rare gentlemen who understands a driller's problems and was willing to go along with whatever suggestion his driller might make. Peterson explained the problem, and told the owner how much time might be lost if all the drilling which had been done was lost also. He suggested going down through the eight-inch-casing section with a six-inch-casing reinforcement, and drilling from that hole on down to water-bearing forma-

Working alone, Peterson uses a circle jack to disassemble a set of tools. He is so used to the sound of the 22-W, he often leaves it running while he performs other tasks around the machine.

tion with a smaller diameter bit. That, he assured the owner, would probably develop adequate water needed urgently for stock watering. It was mid-July at the time, and the ranch was parched. The owner went along with Peterson's suggestion. The 6-in. well turned out exactly as Peterson had promised, and the well is supplying water to this day.

Several years ago, drilling on a tough assignment near Apache Junction, Arizona, Peterson was 603 feet down on one of those rare occasions when for reasons of illness he had to hire a driller. The driller lost three tool strings, one after the other. In an attempt to fish the tool strings out, he lost a bumper, and from that point on he kept getting into a worse mess. Peterson then came back out on the job. After considerable work, he kept cutting cable until he had picked the tool strings out, one piece at a time. That was about the last time, incidentally, that he used the services of another driller or helper.

As a general rule, Peterson uses a tool string weighing approximately 1,500 pounds. It consists usually of a rope socket, drill stem and a bit. Except on hard rock jobs, Peterson does not like to use jars, because generally he carries the casing right along down. Jars are unnecessary in his drilling, he believes — with the exception of rock work — and he has simply dispensed with them.

So far as the deep, dark secrets of water well drilling are concerned, Peterson has none. His philosophies

(Continued on page 33)

Do You Have . . .
Ambitions for Your Business?

Business expansion plans involve a careful review of many factors. Here are some often overlooked points to keep in mind.

by Ernest W. Fair

FEW drillers are satisfied to let their business remain as it is at present; it is an outstanding trait of every American businessman to want his venture to grow and prosper. Water well drillers are no exception.

The dream of most smaller drillers is to build their enterprise into the largest and best in their area. Some achieve their goals; many fall by the wayside.

It takes a great deal more to build a small business into a big one than the desire to do so. We have checked a number of surveys and research reports on the factors entering into the growth of many such firms from small to large status. We have also looked at those which failed in an attempt to do so. From these we have condensed the following suggestions which a driller can well keep in mind as he formulates plans for future expansion of his business.

They are the factors which give him a chance to build that little drilling contractor business into a big one. He may or may not succeed but his chances of success are remote without application of these proven points.

First is that of ample financing of each step upward as it comes along. We often hear of the business empire that was built by an individual on "shoestring" financing, but close investigation of the tale will point it up as more fable than fact. Attempting to expand without the funds with which to properly make the next step is the cause of more failures on the part of contractors than any other single reason.

Men who have succeeded in building a big business from a small start have invariably accumulated the requisite finances, or acquired them from other sources; they have seldom made the step without being well prepared.

Overextending one's credit to build a business has also accounted for many failures in the well drilling field. Credit is based on our honor to make good, within a short period of time, with money. In our particular field, this period of time invariably is too short to permit the expanded business to pick up such financing.

Making certain that the business is available before we expand is a second point, and one high up on the list. We may dream of a dozen rigs going full blast over our area when the possible business maximum would be no more than six. Expanding beyond the ability of the area, beyond the available business, into areas where even a second unit could not survive . . . all of these have accounted for many failures.

It also pays to carefully weigh the

factor of probable business we will be able to get. Too many businessmen go on the assumption that they can obtain a very large share of all available business when they make their move upward. That's dangerous programming. We can definitely figure on more business . . . but our competitors are going to work even harder to hold their business when we do expand, and this factor must be given close consideration.

Need More Help

Expansion on a big scale also calls for additional personnel which may not be available. Most successful men look into this first; give it high priority. The majority have learned that absentee operation of a second, third or fourth drill rig requires a good man on each. It may seem to the inexperienced that two or three units can be run as easily as one, but such is far from true.

A survey of available personnel is desirable whether our expansion be in setting up additional branches in other areas, or merely enlarging the number of drilling rigs at our present location. More experienced drillers, foremen, etc., will be needed. If they cannot be obtained our present staff will be so overburdened it will not be able to function. If we hire just anyone, the service that has built our business in the past will deteriorate and we will lose volume.

Consideration should be given to an analysis of future business obtainable; the flexibility of our location or expansion to that varying condition of business; and attempting to arrive at possibilities one or two years from date, rather than at present.

A boom condition in our city may justify tremendous expansion today, but if that boom should pass within a year or two after the additional capital investment, we find ourselves with such a deflated monthly revenue that it will not support the tremendous overhead acquired.

The same factors should be examined when considering branching out to other areas of a boom nature. Experience has shown that sizeable profits seldom begin to appear in the first months of operation under any type expansion; the build up comes slowly. Unless the healthy conditions of today can be depended upon to continue for at least one more year (and preferably for as much as five years) our business expansion may be a hazardous one.

Watch Competition

Another subject deserving close study is the nature of existing competition. We may have a very profitable small operation today, but when we expand, that may change as we place our business into a field of competition in which we are inexperienced. Many a small drilling contractor has also found business going along very smoothly — until his ambitions scared his competitors into steps which made his enlarged operation a precarious one. A "live and let live" state of competition can turn into a "cut throat" one overnight.

When this happens, our margin of profit on each dollar handled may be reduced to the point where smooth operation becomes difficult.

It is good procedure to check such angles very closely before any type of expansion, AND to be financially and economically set up to handle them just in case they should occur.

Nor should we overlook the possi-

(Continued on page 32)

News of the month

From the State Capitals

An impartial analysis of state and municipal legislative and regulatory trends. Prepared by Bethune Jones.

New developments in the field of water supply and conservation, as reported from state capitals and municipalities throughout the country, include the following:

Colorado

Governor Johnson signed into Colorado law a bill to permit Denver's outlying counties to form water districts and negotiate for their own water supplies.

The measure also authorizes the districts to finance water development with bond issues, after approval by the voters.

In another Colorado development, Chairman George R. Morrison of the Denver Water Board disclosed that the Denver City Council would be asked to set a midsummer referendum for a proposed bond issue of from $70 million to $80 million to finance a long-range metropolitan area water development program.

Louisiana

A committee recommendation for a $40,000 survey of the state's water resources was approved by the Louisiana Legislative Council for submission to the state legislature.

Rep. Edgar Lancaster of Madison Parish, chairman of the council's committee on water use and conservation, said the survey was needed "to determine the amount (of water) presently available and the amount that will be available in the future."

The legislature, he said, then could "determine if there is a need to adopt a water policy governing the use and disposition of water so that there may be a maximum beneficial use to all parties concerned."

Under the proposal, the survey would be conducted by the State Department of Public Works, in conjunction with the Louisiana Geological Survey and federal agencies.

Michigan

A new bill to provide state assistance in locating additional public water supplies for Michigan communities was placed before the state legislature.

The bill would require local governments desiring help to file a request with the commission setting forth that an engineer had been hired to make the surveys and providing similar official data.

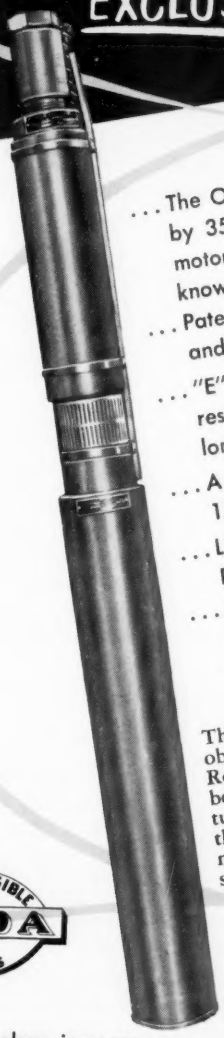
The state commission would be authorized to reimburse local governments for up to 50% of the cost of such surveys but only if it had been given funds for that purpose.

Under the bill, the state would be limited to helping on preliminary engineering reports involving the production, treatment and transmission of public water supplies for an area with inadequate supplies.

North Carolina

Awaiting final action in the North Carolina legislature at this writing was a bill to create a State Board of Water

ONLY REDA SUBMERGIBLE PUMPS GIVE YOU THESE EXCLUSIVE ADVANTAGES



- . . . The Original Submergible pump backed by 35 years of submergible pump and motor manufacturing experience and know-how.
- . . . Patented 2-wire system cuts installation and maintenance costs and power bills.
- . . . "E" type pump bearings insure greater resistance to abrasive damage and longer life.
- . . . A complete line in sizes from ⅓ H.P. to 150 H.P. for 4", 6" and 8" wells.
- . . . Liberal Warranty and 5 Year Exchange Plan.
- . . . The finest and most efficient submergible motor sealed against entry of foreign material from the well and oil lubricated for life.

These extra advantages are *exclusive features* obtained *only* with Reda Submergible pumps. Reda manufactures the complete pumping unit, both motor and pump in its modern manufacturing plant at Bartlesville, Oklahoma. More than half of all submergible pumps sold are manufactured by Reda. These outstanding submergible pumps are tried and proved.

SUBMERGIBLE REDA PUMPS

Drillers — Dealers, increase your pump sales and handle this profit making line. Write TODAY for details.

HOME OFFICE

REDA

PUMP COMPANY

BARTLESVILLE, OKLAHOMA

BRANCHES: Midland, Texas — San Antonio, Texas

Commissioners with emergency powers to divert water and to be charged with conducting a study of the state's water resources during the next two years.

Under the measure, the board, after the governor had declared an emergency in an area, could divert all or any part of the water in that section to take care of human consumption, necessary sanitation and public safety.

The board would be composed of seven members, from a cross-section of the citizenry. Should the board foresee a water emergency in a certain area, it could make recommendations to the governmental units in that area, on conservation and use of water.

Oklahoma

A proposed state constitutional amendment approved by the Oklahoma Senate and sent to the House would clear the way for cities to join together to solve their water problems.

The amendment, which would be submitted to the voters at the July 3 primary election next year, would permit cities and towns to enter into contract for purposes of providing water for more than one year and up to 25 years. The present limit is one year.

It also would allow a city to vote more than the present limit of 5% of assessed valuations for public utilities for water purposes and to spend the funds in conjunction with another city or town.

Another Oklahoma legislative measure, which would create a water study committee, was passed by the state senate and returned to the house for concurrence in amendments before going to the governor for signature.

The study group would be composed of 15 members of the house, 10 state senators and 12 citizens named by the governor. An appropriation of $25,000 would be made for the study, in which the University of Oklahoma, Oklahoma A&M College, the Oklahoma Geological Survey and all state agencies would be authorized and directed to cooperate.

Provision for the study was approved as an alternative to a proposal, previously rejected, which would have created a state water authority empowered to issue revenue bonds for water development projects.

Texas

Separate versions of a proposed state constitutional amendment authorizing a $100 million bond issue for state aid to local water conservation projects were approved by both branches of the Texas legislature, with action awaited at this writing on efforts to reach agreement on one measure.

The House-approved version would finance the bonds by taxing water users, while the State Senate voted to support the bonds with a property tax of 3 cents on each $100 valuation.

Folder Describes New Hose Clamp

Hose clamps made by the Punch-Lok Co., Chicago, Ill., are illustrated and described in a new folder, "The Sign of a Good Hose Clamp."

Called Punch-Lok, the clamp is composed of band steel and the Lok. The steel is tensioned in place around a hose fitting with a locking tool which also locks the clamp securely in place. The excess of the bands is broken off flush with the Lok.

According to the manufacturer, this method of punch locking stops

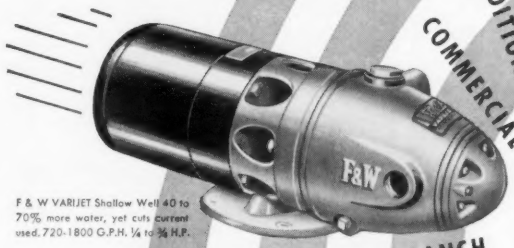
(Continued on page 22)

on target!

IN EVERY MARKET

F&W
WATER SYSTEMS
Performance-Proved Since 1866

AIR CONDITIONING
COMMERCIAL
REPLACEMENT
SMALL INDUSTRY
IRRIGATION
RESORT
SUBURBAN
INSTITUTION
FARM & RANCH

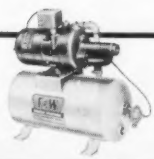


F & W VARIJET Shallow Well 40 to 70% more water, yet cuts current used. 720-1800 G.P.H. ¼ to ⅜ H.P.

Yes! You're right on target in every way that means profit from water systems with F & W! There's a *complete* line—with a pump for every capacity, pressure, and type of service for home or farm. F & W gives you exclusive advantages that help you sell . . . and F & W Systems *do* give trouble-free performance; that means satisfied customers. Take the F & W VARIJET for instance. It is absolutely unapproached by any other pump for shallow-well use. It gives 40 to 70% more water yet reduces motor load and power consumption. Do customers like it? You bet they do! And it's an *exclusive* F & W patent! So it is with other F & W Pumps. You enjoy comparable advantages that make F & W the proved, dependable, profit-line for you! So why not put F & W to work for you, too? Send today for our complete catalog.

FLINT & WALLING MFG. CO., INC. • 797 OAK STREET, KENDALLVILLE, INDIANA

F & W Multi-Purpose Jet Easily changed to deep-well use. ½, ¾ & 1 H.P., 1 and 2 stages. Pressures to 100 lbs. Maximum capacity 950 G.P.H.



F & W "Economy" Multi-Purpose Jet. ½ H.P. 350 G.P.H. Easily changed to deep well operation.

F & W Deep Well Multi-Stage Jet 1 to 4-Stage, ½ to 5 H.P. (500-4000 G.P.H.). Control Valve, Speedi-change Seal, Air Injector.

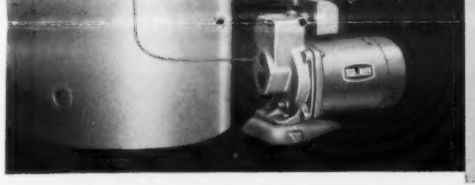
F&W means Flowing Water by Flint & Walling

To make pump sales easier for you...

STA-RITE Announces

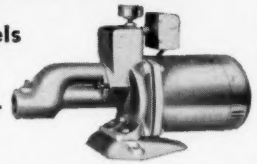
the NEW low-cost METROPOLITAN

Complete ½ hp. deep well model available with 42-gal. galvanized vertical tank. Suggested retail prices include all fittings: Foot valve, single or double pipe jet and air volume control.
Shallow well pumps in ½ or ¾ hp. sizes. Mounted on 12, 17, 30 and 47-gal. tanks. Capacities up to 1325 gallons per hour. A complete packaged water system, including foot valve.
STA-RITE
Metropolitan
AUTOMATIC WATER SYSTEM



Complete Line of POWERFUL PUMPS

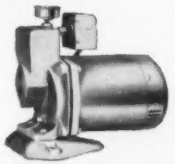
Shallow well models also available as "pump only" units. Choose ½ or ¾ H.P.



★ **Provides widest variety of models**

★ **Allows installation with any vertical tank**

Deep well "pump only" model is ½ H.P.



★ **Easy set-up on 2", 2½", 3" or 4" wells**

IDEAL FOR HOUSING PROJECTS

Here's proof—Sta-Rite gives you more to sell for the money . . . gives you a model to sell for every prospect. Thrifty buyers dictated the need for this new line of METROPOLITANS. And these new Sta-Rite pumps and water systems give you the competitive edge . . . put you right in position to cash in on the fast growing project market.

MORE FEATURES TO SELL

Yes, deluxe features at the price you pay for some "stripped-down" models. Includes exclusive glass-lined jet. Powerful, capacitor-type, ball bearing, nationally known motors. Corrosion-resistant shaft. They're features that guard against service call-backs—help you keep your profit!

LONGER PROFIT PER PUMP

Not just a price leader, but a **profit** leader, too! In fact, every pump in the Sta-Rite line assures full margins, longer profits. Compare prices, trade discounts, quality. Ask your wholesaler today. Or write for his name and address.

STA-RITE PRODUCTS, INC.

302 S. 8th ST., DELAVAN, WISCONSIN

LOS ANGELES, CALIF. • CHAMBLEE, GA.

IN CANADA: STA-RITE Pumps (Canada) Ltd., Ajax, Ontario

Sell STA-RITE *the* **PROFIT***able line of pumps*

News . . .

(Continued from page 18)

any slippage of clamp from pressure or vibration, and eliminates any projections which might snag or catch. For details, write the Punch-Lok Co., 321 N. Justine St., Chicago, Ill.

New Auger Screw Bit Announced by Peterson

Peterson Engineering Co., Santa Clara, Calif., announces the Pengo fish tail screw bit, a new addition to their line of earth boring tools. It is available in ten sizes of drill heads ranging in diameter from 2½- to 10-inches for boring to depths of approximately 300 ft. The bit is designed for use with any make of screw auger for vertical or horizontal drilling of shot holes, wells or any other purposes for which small diameter holes are required.

The manufacturer states the bit drills through sandstone, limestone, shale and any material other than hard rock. It is available through most manufacturers of drilling equipment or direct from Peterson Engineering Co.

Campbell, Walsh Mark 40 Years at Bucyrus-Erie

Two widely known men in the water well drilling industry have completed 40 years of employment at Bucyrus-Erie Co., South Milwaukee, Wis. They are Donald E. Campbell and William Walsh.

Both men began with the Armstrong Mfg. Co. of Waterloo, Iowa. That firm manufactured water well drills and became part of Bucyrus-Erie Co. in 1932.

Campbell started with Armstrong as a yard hand in 1915. After that, he did erecting, stock room, purchasing, shipping and sales work with the company.

When Armstrong was taken over by Bucyrus-Erie, he stayed on at Waterloo to handle drill sales and service duties in the area. In 1944, Campbell joined the drill sales department in South Milwaukee and has continued in that capacity ever since.

D. E. Campbell

W. Walsh

Walsh was the Armstrong representative on the west coast shortly after joining the company. While with Armstrong, Walsh placed a bit dresser and drill order that made up a trainload of 12 cars. This is probably the largest single order of water well drilling equipment placed in this country.

Walsh introduced this publication's predecessor, *The Armstrong Driller,* and was the first editor of *The Driller.* He is still a consulting editor.

Well Seal Available For Any Size Casing

A new well seal has been announced by Robert R. Thompson, Marshall, Mo.

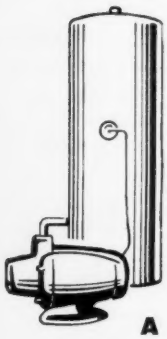
Called the Thompson Seal, it is made of steel plate and sealed with heavy rubber, and is available for all

Every installation is a silent salesman building future business for you!

Perfection

TURBO-JET SHALLOW WELL PUMPS

Deliver over 700 gallons per hour with the smooth, quiet operation that customers talk about



Here's a complete package loaded with high quality workmanship and dependability. The Perfection Shallow Well Turbo-Jet has Perfection close-coupled construction, with bronze impeller and cooling fan mounted directly on the heavy, stainless-steel motor shaft. This Unit-Built design and the heavy, cast-aluminum housing assures perfect alignment, eliminates noise and vibration.

The Perfection Turbo-Jet never needs greasing or oiling and is equipped for completely automatic operation. Comes as a complete package with pump mounted on a 17 or 30 gallon tank. Floor-mounted models available with any standard size tank.

Perfection's careful research and engineering, long experience in pump manufacture and modern production methods *build value as well as quality* into Perfection Pumps. The complete story on Perfection pumps includes not only customer satisfaction *but greater profits for you.*

A PUMP FOR EVERY DOMESTIC PURPOSE

Write for more information!

Perfection
SALES CORPORATION

A subsidiary of Perfection Mfg. Corporation

MINNEAPOLIS 13, MINNESOTA

CHARLOTTE, N.C. • AUSTIN, TEXAS

PERFECTION SYMBOL OF CONTENTMENT SALES CORPORATION

Perfection Sales Corporation
2129 E. Hennepin, Minneapolis 13, Minnesota

I want to know more about Perfection Pumps

- ☐ **Send information about the complete line**
- ☐ **I would like to talk to your representative**

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ STATE_____

Pump Handle Pete Says:

A JENSEN JACK SAVES MONEY

Mr. Driller, your customers will appreciate the savings you offer them in JENSEN JACKS.

The low initial cost saves money . . . the small cost of maintenance and operation also gives your customer a saving. JENSEN JACKS are easier to install and counterbalance. Get the facts—write now.

JENSEN'S SELF-ADJUSTING STUFFING BOX SAVES, TOO. Ends stuffing box trouble.

JENSEN JACKS

JENSEN BROS. MFG. CO., INC.
1016 Fourteenth Street
Coffeyville, Kansas

sizes of casings and pumps. According to the manufacturer, the seal is designed to support heavy reciprocating as well as jet and submersible pumps. The maker also states that the seal creates a vacuum to help pull water into a well.

For further information, contact pump jobbers or the manufacturer.

U. S. Motors Introduces New Submersible Motor

A new submersible motor has been perfected for water well pumping by U. S. Electrical Motors Inc. Incorporating standardized NEMA mounting dimensions, the U. S. Submersible motor is of the wet type: water into the motor will cause no harm to the windings.

A special process has been developed for encasement of the copper windings in a plastic armor which is impervious to water within the motor. The motor is immune to such hazards as leaky joints, wear of seals, condensation, impurities, vibration, etc.

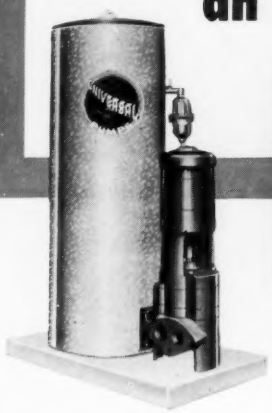
To guard against internal corrosion, the motor is factory filled with a stable emulsion of oil and water.

Weight of rotating parts and pump thrust is supported by a thrust bearing made especially for this motor. Because of the water-oil emulsion within the motor, there is no need to lubricate these motors either at the time of installation or any time thereafter.

A control box contains the starting capacitor, relay, overload device, motor data, wiring diagram and connection terminals. The U. S. Submersible motor is available in ratings from ⅓ to 2 hp, single phase, and 1½ and 3 hp, three phase.

A new bulletin, F-1870, gives full details. A copy may be obtained by

Makes more drilling jobs an immediate success



UNIVERSAL

STA-PRIME

DEEP WELL JET PUMP

If there's water in the well, this star-performing new UNIVERSAL multi-stage jet gets it — even from wells to 400 feet and greater.

- Unaffected by air or gas in well water—both are separated in pressure tank so that unit will not lose prime once it is primed.
- Operates at peak capacity regardless of changing water levels. No manual control valve to adjust. Fully automatic.
- Provides up to 1100 gals. per hr. — far greater capacity than from normal multi-stage jet pumps.
- Available with patented twin-check valve assembly which converts pump to an automatic self-priming unit.

New descriptive literature now available

also new low-priced jet water systems

For ordinary pumping conditions, tell your customers about UNIVERSAL'S rugged new package water systems. They're low in cost . . . come ready to plug in.

THE RUGGED PUMP FOR RUGGED JOBS

RECOMMEND UNIVERSAL PUMPS

UNIVERSAL Mfg. CO.

3333 Eastshore Highway • Richmond, Calif.
4108 Hoffmeister Avenue • St. Louis 23, Mo.

The choice of farm, home and industry

RED JACKET
"Submerga"
PUMPS
THE WORLD'S FINEST

THE PUMP
YOU DON'T SEE
CAN'T HEAR
NEVER LUBRICATE

NO COSTLY PIT
OR PUMP HOUSE
REQUIRED

½ H.P. TO 3 H.P. SIZES

FOR PUMPING
LEVELS DOWN TO
1000 FEET

CAPACITIES TO
1650 GALLONS
PER HOUR

One of the most compact, attention-free and easy-to-sell pumps ever offered. Exclusively designed with high-quality materials, precision assembled, makes the Red Jacket "Submerga" the most wanted water system pump all over America. Hurry and join the many Red Jacket dealers who are enjoying nice profits from the easy sale of this popular pump and associated items. Write today for the name of your nearest Red Jacket jobber. Complete colorful brochure and performance data available free on request.

RED JACKET
water service products

IN CANADA
Railway & Power Engineering Corporation, Ltd.
Toronto • Montreal

RED JACKET MANUFACTURING COMPANY
Dept. D-75 Davenport, Iowa
"The Choice That's Made Friends" —Since 1878

writing to U. S. Electrical Motors Inc., Box 2058 Terminal Annex, Los Angeles 54, Calif.

More Wells Possible In Nebraska Region

Large yields of ground water can be obtained from wells throughout much of the upland area bordering the Lodgepole Creek Valley in Nebraska, according to a Geological Survey report on the area.

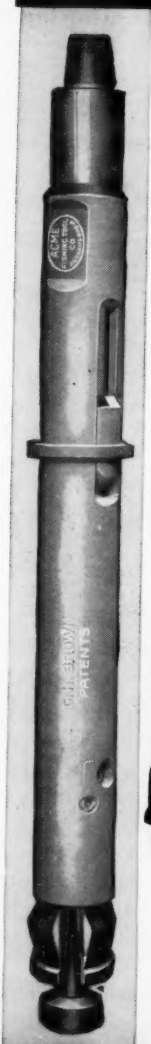
Because 13,000 acre-feet of water annually leaves the area as excess ground water, at least that amount could be pumped without exceeding the annual replenishment of the water-bearing materials. Lowering the table by pumping also would salvage part of the 20,000 acre-feet annually discharged by evaporation and transpiration.

In 1950 about 40,000 acre-feet and in 1951 about 28,000 acre-feet of water were pumped from wells in the area. Of these amounts, about 35,000 acre-feet and 23,000 acre-feet, respectively were pumped for irrigation. Although the pumping and natural discharge together cause a seasonal decline of water levels, no general decline of the water table has been detected to date.

The principal water-bearing materials in the area are the Brule and Ogallala formations of Tertiary age, and the alluvium of Pleistocene, and Recent age. In general, the chemical character of the ground water is similar to that of the surface water in the Lodgepole Creek drainage basin.

This information is contained in a report written by L. J. Bjorklund and E. R. Jochens of the Geological Survey. The report, "Geology and ground-water resources of Lodgepole

Greatest Name in Cable Tools



Acme

TRUSTWORTHY SINCE 1900

Acme's 3-Cutters

Ream Larger Hole — Faster

When Water Well Drillers strike hard formations under which there is quicksand or gravel, they find Acme's Underreamer a most efficient tool for enlarging hole size to permit pipe to be lowered through hard rock.

It's exclusive-feature 3-Cutter Reamer is far superior to obsolete 2-cutter types. Unique construction assures solid backing while reaming; cone seats firmly around cutters, inside. Holds better cutting gauge—longer. Cone keeps out dirt. See illustrations: Collapsed for "free and easy" in-and-out of hole. Expanded for reaming operation. No jarring into casing; no broken cutters.

Fig. 143

Body of one SOLID forging — no sub to unscrew. Hard surfaced cutting edges. Fashioned of premium-specification steel and correctly heat-treated — to make the world's finest reaming tool.

Write for free copy 36-page (1955 edition) Catalog and tool-use Manual — designed and packed with especially valuable information for Water Well Drillers.

To-be-Sure —Always: Order Acme's

You get more of EVERYTHING needed in Acme Tools—100 are shown in new Catalog.

Acme Fishing Tool Co.

PARKERSBURG, W. VA.

ACME DRILLING & FISHING TOOLS Since 1900

EXPORT OFFICE:
Stardrill-Keystone Co., Beaver Falls, Pa.

Creek drainage basin, Nebraska," may be inspected at the following offices of the Geological Survey: 1242-G, General Services Bldg., 18th and F Sts., NW., Washington, D. C.; 510 Rudge-Guenzel Bldg., Lincoln 8, Nebr.; and 2002 Capitol Ave., Cheyenne, Wyo.

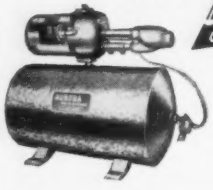
Dayton Introduces Stainless Steel Tank

A compact jet water system with stainless steel pressure tank has been introduced by the Dayton Pump and Mfg. Co., Dayton, Ohio.

This use of stainless steel represents another first in the industry for Dayton Pump and adds another quality feature to Rapidayton pumps, according to Gerard J. Carney, vice president and general sales manager.

Get on the PROFIT BEAM with the SENSATIONAL

AURORA Mainliner CONVERTIBLE-JET WATER SYSTEMS



and SHALLOW WELL WATER SYSTEMS

Write for BULLETINS 133-ML & MLS

The Mainliners "by Aurora" have swept into high favor among installers and users alike. These handsome units are ECONOMICAL and outstanding performers. The Convertible-Jet Mainliners are ⅓ and ½ h.p. tank-mounted with 17 or 30 gallon tank or foot-mounted. The Shallow Well Mainliners are ⅓ h.p. with 17 or 30 gallon tank or foot-mounted. This Mainliner series ranges in price from $74.00 to $109.50 f.o.b. Aurora. Great buys every one.

Distributors in Principal Cities

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY

58 Loucks Street AURORA • ILLINOIS

The stainless steel tank will be available on the new Rapidayton Freshwater package systems, which are being made for both shallow and deep wells.

New Wickwire Product Now Marketed in East

Cal-Tie Wire, a new product of the Wickwire Spencer Steel Div. of The Colorado Fuel and Iron Corp., is now being manufactured at its Buffalo (N.Y.) plant and will be marketed extensively throughout eastern United States, it was announced by H. C. Allington, vice president in charge of sales for the company's eastern division. Manufactured by CF&I's Pacific coast division, Cal-Tie Wire has previously been available only in the West and in limited quantity in the East.

143 Attend Viginia Meeting

The Virginia Water Well Drillers Association held their Spring meeting May 20 and 21 at the Patrick Henry Hotel in Roanoke. According to J. C. Ange, president of the association, attendance numbered 143.

Robert Denny, discussing the importance of the water well industry, suggested the group call themselves the Virginia Water Producers Association.

He cited the progression of terms from digger to driller, suggesting the producer term as better suited to the industry.

W. Calvin Falwell, president elect, National Water Well Association, gave a talk on the National.

The annual meeting, with election of directors and officers on the agenda,

will be held September 21, 1955 at the William Byrd Hotel in Richmond.

Artificial Recharge Progress Reported

A progress report on studies of artificial recharge of ground water in the Grand Prairie region of Arkansas was recently released by the Geological Survey.

In 1953 the Grand Prairie region was selected for an investigation of the fundamental principles of recharging ground-water reservoirs because it appeared to provide a large natural laboratory in which studies of general interest could be conducted.

The large basin of dewatered sediments caused by pumping, for irrigation, at a rate greater than the natural recharge has produced an ideal situation for the recharge experiments.

The character and distribution of the geologic materials composing and overlying the aquifer have been determined in 46-ft. holes within a radius of three miles of the recharge site. These test holes have been cased and developed as observation points where water samples may be obtained and fluctuations in water levels recorded.

The first test was made by recharging with ground water pumped from an irrigation well 1,300 feet from the recharge well. This test furnished a check on previous hydrologic computations and on the development of the recharge well. The first recharge tests using surface water are planned for the winter months of 1955-56.

The "Progress report on artificial recharge in the Grand Prairie region,

U.S. VERTICLOSED MOTOR

EVER-DEPENDABLE

The new U. S. Verticlosed Motor is an electro-dynamic engineering milestone, designed to maintain high efficiency and give dependable service throughout the life of your pump. Features include downdraft ventilation, asbestos-protected windings, normalized castings, Reg-U-Lube oil flow, Visolube oil gauges, weatherproof housing, adjustable hollowshaft or solidshaft and streamway design. Specify U. S. Motors—at no extra cost.

MAIL COUPON FOR PUMP MOTOR BULLETIN

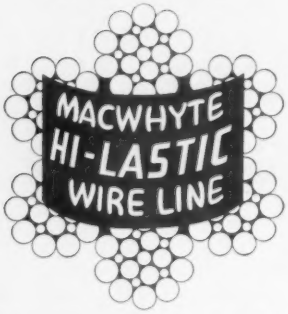
U.S. ELECTRICAL MOTORS Inc. D-7
200 E. Slauson Ave., Los Angeles 54, Calif.
Send Bulletin featuring U.S. Verticlosed Motors

NAME_____

ADDRESS_____

CITY_____ ZONE OR R.D._____ STATE_____

Make Hole, FAST



"Hi-Lastic" Drilling Line was especially developed for drilling water wells and blast holes to 1,000 feet.

This Internally Lubricated wire line offers greater elasticity than standard lines, enabling drilling tools to drop farther for a given stroke . . . and strike a harder, faster blow. The result is smoother, faster drilling at lower cost.

Macwhyte makes a complete selection of wire lines for drilling water wells, blast holes, oil and gas wells, for prospecting, and all cable tool and rotary drilling.

Send for Circular 5414. **It describes all Macwhyte drilling lines.**

Illustrated chart on socketing wire rope No. 3890 also available.

MACWHYTE COMPANY
2939 Fourteenth Avenue
Kenosha, Wisconsin
Manufacturers of Wire Rope • Wire Rope Assemblies • Slings

Mill Depots: 1070R
New York 4, 35 Water St.
Pittsburgh 19, 704 Second Ave.
Chicago 6, 228 So. Desplaines St.
St. Paul 4, 2356 Hampden Ave.
Ft. Worth 1, P.O. Box 605
Portland 9, 1603 N.W. 14th Ave.
Seattle 4, 87 Holgate St.
San Francisco 7, 141 King St.
Los Angeles 21,
2035 Sacramento St.

Arkansas," was written by R. T. Sniegocki. Typewritten copies may be inspected at Geological Survey offices in Room 208, 515 E. Second St., Little Rock, Ark., and Room 1242-G, General Services Administration Bldg., 18th and F Sts., NW., Washington, D. C. The studies are continuing, and a full report will be published upon their completion.

Western Plastics Corp. Announces New Pipe

Klearcor, a new-type plastic pipe composed of a clear inner core of unpigmented polyethylene covered by an outer sheath with black pigment concentration, has been developed by Western Plastics Corp., Hastings, Neb.

The outer sheath serves as an added safety factor and gives greater strength to the pipe, the manufacturer states. In addition, the sheath provides added resistance to sunlight because of its high pigment concentration, and is guaranteed not to separate from the clear core, according to the manufacturer.

The pipe is available in ¾-, 1-, and 1¼-in. sizes.

New Water Purity Bulletin Available

"Get Perfect Water Clarity with Celite Filtration" is the title of a new 12-page, illustrated bulletin by Johns-Manville. It covers filtration of drinking water, process water and plant wastes.

The brochure explains how Celite diatomite filter aids remove colloids and other suspended impurities; shows the adaptability of Celite powders

(Continued on page 33)

Announcing **the newest...**

lowest priced... longest profit

submergible on the market!

ANOTHER QUALITY PRODUCT FROM

MODERN-WOODMANSE

2 GREAT NAMES... NOW ONE FOR PROGRESS!

This is it! The newest member of the M-W family—backed by nearly 100 years of engineering know-how.

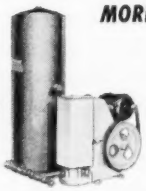
It's low, low in price, and . . . from Modern-Woodmanse . . . another bonus! The longest discounts ever given in this category. You enjoy larger volume sales *plus* bigger profits, not smaller ones!

This Modern-Woodmanse wonder pump is water-cooled and water lubricated. It's absolutely noiseless—and it can be taken down completely, and serviced on the job!

There's no priming. It's frost-proof, tamper-proof and trouble-free. We test run every pump before it's shipped!

We'd like your business. And this highly efficient pump should *earn* it. There's a full line of great new models, each with the lowest price on the market today. Each with 1-year warranty. *Send for literature and prices today.*

ALSO BRAND NEW



MORE COMPACT... SUPREMELY EFFICIENT

MODERN-WOODMANSE

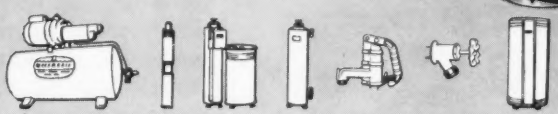
DEEP WELL SYSTEM. Improved throughout! Has aluminum enclosed weatherproof pump head for easier, lighter handling; removable bearings; heavy-duty double gears; self-oiling feature. Here is the perfect pump for sandy or weak wells where submergibles fail! Finest high capacity deep well system made, and the easiest to service.

GROW WITH US!

Our new sales program will make you more money

Write or wire now!

A HONEY OF A LINE



Water Systems • Submergible Pumps • Softeners • Filters • Hydrants • Faucets • Water Heaters

MODERN-WOODMANSE

Sales Division George Getz Corp. Dept. TD, West Chicago, Illinois

Ambitions . . .

(Continued from page 15)

ble change in overhead costs that may develop from our expansion. Where our present small operation is based on a comfortable 40% margin, we may find the added costs of a bigger operation reduces this to 25%. Many drilling contractors who have been very successful with small operations, where such margins are higher, find that they cannot handle the problems of running the business at close to half of their present margin.

Preparing a detailed analysis of costs, and making certain that we have the knowledge and experience to do business at these levels are prime considerations.

It is also advisable to consider the type of customers on whom we have built our business. Then decide whether or not the expansion we have in mind will not only hold all of this existing business, but that there are more such customers to justify the expansion. We cannot use volume figures alone in making such a study. Instead, we must base our plans on the potential of customers within the group where we have been doing business.

A business developed in one specific field or market may not lend itself easily to expansion in other fields. Many small firms exist because customers prefer to do business with them; growing out of the small firm status into that of a big one may lose many of these customers, who may be suspicious of any "big operator."

Personal Contacts

Much of the small contractor's business is built on the personal contacts he makes, on the faith and trust people have in him as an individual, and their knowledge that he will personally supervise every drilling job that they give him. When he grows to a big business status, he must delegate these responsibilities to others, and this source of contact is broken.

All of the foregoing factors are important as part of any drilling contractor's planning for the future. Such a step should be taken only after detailed planning and careful consideration of all of the problems involved. It should always be a step by step procedure rather than one big leap ahead.

These points have been developed through experience. These same points, which have built many a small business into a big one, can be used again today and far into the future by any ambitious drilling contractor.

You, too will do better with AERMOTOR

pumps and complete water systems

So Easy-to-Sell because Aermotor has meant dependable quality since 1888.

Easy-to-Install because of their simple construction.

Easy-to-Service because all parts are readily accessible and call-backs are rarely necessary. Ask for information about the Aermotor Dealer Franchise.

AERMOTOR COMPANY

2500 W. Roosevelt Road, Dept. 8207
Chicago 8, Ill.

News . . .

(Continued from page 30)

to various types of filter designs; and cites representative installations where Celite is being used to advantage. The latter includes examples of special interest to sanitation engineers, beverage producers, and operators of any business interested in extra water clarity or elimination of pollution and water waste.

Copies of the brochure are now available from Johns-Manville, 22 E. 40th St., New York 16, N.Y.

Mesa's Lone Wolf . . .

(Continued from page 13)

are the ones which have been tested by time. He believes the way to attract potential customers is to make himself available, and to show the proper interest and follow-through when a job appears on the horizon. He makes a point of making his word good, so that when his drill rig is promised he moves in promptly.

These things, coupled with reasonable prices, bring in the word-of-mouth advertising which is so valuable to a water well driller. Peterson normally charges on a per foot basis for the drilling, plus an additional charge for casing installed.

According to Peterson, his 22-W machine has delivered excellent service since its purchase, and has given a minimum of trouble and maintenance expense. The machine is helping him to go along very nicely helping his neighbors with their water problems, and proving his theory that a well driller still can be successful as a lone wolf, providing he can be an expert in everything from sales promotion to tool changing.

DRILL WITH SPINKS

FOR HIGHER CAPACITY WELLS

SPECIAL MUDS MINED AND PROCESSED FOR WATER WELL DRILLING!

- **SPINKS Gleason**—easy-mixing mud, washes out quickly, easily. Minimum penetration! Makes heavy mud — 9.5-lb. to 10-lb. range — stops cave-ins! Excellent lubrication properties! Removes cuttings quickly, thoroughly! Durably sacked in water-repellent asphalt lined bags! 50-lb. size for easy handling . . . less chance of loss!
- **SPINK-Gel** — high-yielding, finest quality Wyoming bentonite. Low water loss! Exceptional lubricating qualities!
- **SPINK-O** — medium weight mud. Combines outstanding qualities of Gleason and Spink-Gel.

Distributorships now open in several choice territories! WRITE, WIRE or CALL Rich Carothers. Telephone 1502, Paris, Tenn.

H. C. SPINKS CLAY COMPANY, INC.

Mines and General Offices
Paris, Tennessee

Spinks

BITS *from the wit sharpener*

The engineer and his wife were entertaining at dinner. Suddenly a child's voice was heard from the floor above. "Mother?" "What is it, Archie?" she asked. "There's only clean towels in the bathroom. Shall I start one?"

An elderly woman, who is a collector of antiques, frequently goes with her traveling husband when he goes to small towns, and while he is making his calls shops around in hope of turning up a "find." Recently she was on one of her hunting expeditions in a small town and approached two small natives standing on the main street.

"Can you tell me where I can find an old fashioned what-not?"

"Why, yes," replied the native, "just go around behind the store building and turn to your left. You can't miss it."

"Is it a big job or a small one?"

He: "I can't see what keeps girls from freezing in the winter time."

She: "You're not supposed to."

Just last week the cost of living went up fifty cents a bottle.

He: "I wonder what a bride thinks of when she's strolling up the aisle, to the altar, to the wedding hymn?"

She: "You said it — Boy — Aisle — Altar — Hymn."

A Westerner entered the saloon with his wife and 6-year-old boy and ordered two whiskies.

"Ain't ma drinking?" asked kid.

Two pickpockets were working the crowd in front of an office building. They paid particular attention to one man, whom they had seen take out a fat wallet and count the contents.

They trailed him to a lawyer's office without getting a chance to get the wallet. Soon the man came out.

First Pickpocket: What are we going to do now?

Second Pickpocket: Wait around for the lawyer.

In a Western cowtown an old man was walking by a saloon when, without warning, a young cowhand dashed out, took a flying leap from the sidewalk and landed on the seat of his pants in the gutter.

The man hurried over to him. "Are you hurt?" he asked.

"No," was the angry reply, "but I'd shore like to meet the so-and-so who moved my horse."

More Jobs . . . In Less Time

At Lowest Cost

with the new 1-W Water Well Drill

This newest Bucyrus-Erie water well drill brings you the biggest advance in drill design in years! Now, with one basic machine you can drill wells by any one of the following methods, and handle test hole drilling and well servicing, too.

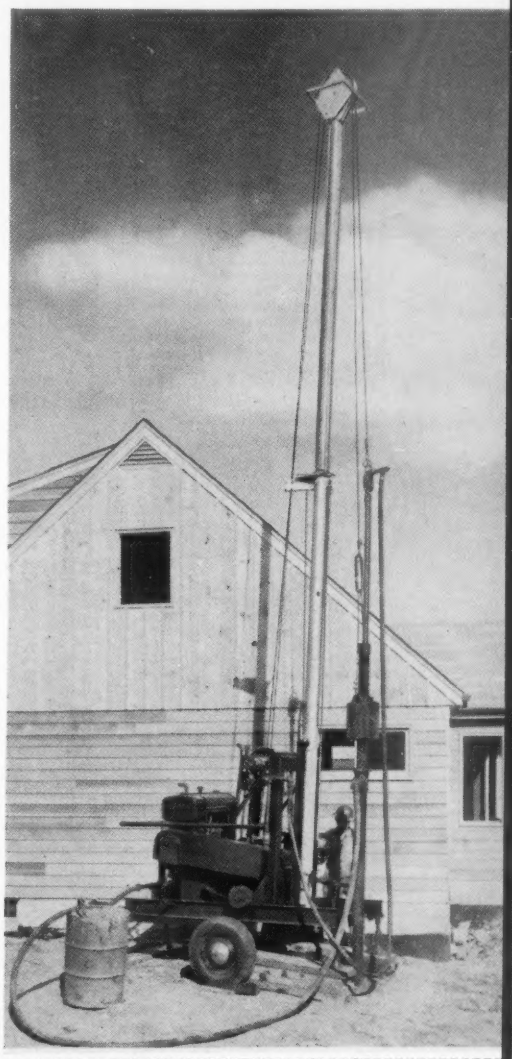
JETTING Can drill 2- to 4-in. wells. Depth capacity ranges from 350′ (2-in. well) to 200′ (4-in. well). Spudding motion is hydraulically actuated. Centrifugal or piston-type jetting pumps, complete with power take-off drive, available.

HOLLOW ROD DRILLING Can drill 2, 2½, and 3-in. wells. Depth capacity ranges from 350′ (2-in. well) to 250′ (3-in. well). Simple ball check valve between bit and drill rods forces cuttings and sludge to surface.

CABLE TOOL DRILLING Carrying up to 600 lbs. of solid tools, the 1-W can drill 2- to 4-in. wells. Depth capacity ranges from 315′ (2-in. well) to 225′ (4-in. well). Casing can be driven simultaneously. Spudding motion is hydraulically operated.

ROTARY DRILLING The 1-W can be equipped with a rotary drive unit, consisting of table, drive sprocket, chain, and guard, at nominal extra cost. You can drill 3- and 6-in. wells by the rotary method. Depth capacity ranges from 250′ (3-in. well) to 200′ (6-in. well). Kelly and swivel can also be supplied.

The 1-W's versatility, mobility, and compact construction also make it an ideal unit for test hole drilling and well servicing. Complete information is yours for the asking — send in coupon today!



BUCYRUS-ERIE COMPANY
South Milwaukee, Wisconsin

First with the Finest in Water Well Drills!

BUCYRUS ERIE South Milwaukee, Wisconsin

Please send me a copy of your 8-page illustrated 1-W water well drill bulletin.

Name .....

Company .....

Address .....

City ..... Zone ..... State .....

33W55C

BARGAIN *counter*

All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: 60c per line. Minimum charge $2.40. No discounts; no commissions. Count your own copy to avoid delay. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Closing date — 10th of preceding month. Example — January issue closes December 10th. Be sure to address separate inquires to each advertiser by using the correct box numbers. Mail Box inquires care of THE DRILLER, South Milwaukee, Wis.

DRILLS FOR SALE

1950 22-W with starter, rubber cushion sheaves, casing reel, spooling device, two cat heads, power derrick hoist mounted on '51 6 cyl. two speed Ford truck, tools for 6" hole, rope socket, 4½x14' stem, 6" bit, tool wrenches, chain tightener, bailer, drive clamps, drive head, casing reel block, tools almost new; 700' ⅝" drill line, 700' ⅜" sand line good; rig and truck in A-1 shape; price: $5500. Swartz & Biggs, Atwood, Ill., Phone: 3861.

Old style Star spudder and old style Ft. Worth spudder for 2500' drilling; one extra motor, bare machines both for $3000. Box 602

#42 Cyclone mounted on '47 Studebaker truck with good motor and two speed rear axle with fair tires; machine has tool guide, cathead, spooling device, slack line holder, gear reduction on bull reel for pulling casing, etc casing reel, starter and generator; 600' new ⅝" drill line, 600' ⅜" new sand line; cat walks and tool box built on; has been used about six weeks; drilled ten 4" wells; must sell because too big for our work; price: $5800. Douglas Holzem, 1975 Prairie Ave., Beloit, Wis., Phone: 2-3922.

DRILLS FOR SALE

Bucyrus-Erie 24-L drill rig, semi-trailer; very good condition; standard equipment.

Bucyrus-Erie 22-W, type D, for truck mounting Hercules QXB 6 cyl. gasoline engine with electric starter; equipment: spooling device and casing reel; fine condition, reasonably priced. Shawver Well Co., Fredericksburg, Iowa, Phone: 114.

#240 Star mounted on '41 Chev., all necessary tools for 4" work; 800' of each line all in A-1 shape; price: $2500. Rayburn & Martin, 121 West Sumner, Indianapolis, Ind.

20-W drill machine with casing reel and spooling device and a string of 6" tools; 500' of ⅝" drill line and 500' of ⅜" sand line. Casmir Szydlowski, Route 13, Box 281, Milw., Wis., Phone: So. Milw. 2-5070.

All steel machine with 36' power raised one piece derrick with Bucyrus-Erie cushion and crown sheave with ¾" drill and ⅜" sand line included mounted on 1942 Ford truck; price: $1200. Howard Nelson, LaCrescent, Minn.

24-W Bucyrus-Erie mounted on Army 6x6; machine fully equipped; 650' of lines included; no tools; price: $5000. Mathias Well & Pump Co. Inc., Lindenhurst, L. I. New York, Phone: Lindenhurst 5-2300.

#22-K Star Keystone 1953 model with 42' derrick power hoist, casing reel, cat head, pipe braces, mounted on 1947 Studebaker 6x6 truck, all good condition; 600' ⅝" drill line, about 700' ⅜" sand line; 170' ½" casing reel; line heavy D block sheave; price: $5500, rig too big for our use. Mantyla Well Drilling, Rt. 4, Stillwater, Minn.

Keystone 50 mounted on Diamond-T truck; drill equipped with Minneapolis Moline engine with transmission; power derrick hoist, tool guide, full set of tools; price: $2500.

#240 Star mounted on 1942 Chevrolet truck; price: $1800 without tools. W. N. Elick, Lyndhurst, Virginia, Phone: Waynesboro 2-3537.

DRILLS FOR SALE

#40 Keystone approximately three years old mounted on 2-ton International truck; equipped with the regular 32' one-piece derrick, Powermast hoist and casing reel; powered by a Continental engine having complete electric starting equipment; included also one swivel socket, one stem and two six inch drill bits. Theodore Larason, Hopewell, New Jersey, Phone: 6-0863W.

Ideco #6 '48 model with drill and sand lines, 33' telescoping derrick, Allis-Chalmers 4 cyl. motor, mounted on 1948 F-5 Ford.

Knight hollow rod machine, with Wisconsin motor, mounted on 1½ ton 1940 model Ford, located in Michigan. Box 600

24-W Bucyrus Armstrong water or oil drilling machine, cap 6" hole, 1500' with 1400 lb. tools, 65 hp Buda eng. full trailer mounted; calf reel and spooling device; reas. price; must sell. John M. Heeter, 312 Indiana Trust Bldg., Indianapolis, Ind.

All steel rig on '46 Stud. 6" tools and lines $1200.

#42 Cyclone 1950 on '46 Stud., tools, 600' of line, $3700.

Failing 1500 1954 Int. 170 tools and rod, $17500.

Cat. motor patrol $500. 4" centrifugal pump $200. Circle jack $65. Herschel Mourning, Colchester, Ill.

#40 Cyclone model 1948 mounted on 1½ ton Ford truck also #42 Cyclone model 1946 mounted on 2½ ton GMC truck. Jos. N. Cauffiel, 29093 List St., Farmington, Michigan, Phone: 2405.

K-2 Loomis 1941 model; bare machine $2250.

K-2W Loomis 1945 model; $2500; located in Michigan. Box 601

21-W mounted on 1950 Ford truck, trussed derrick, Allis-Chalmers power unit, 3½ x 16 stem, 5 and 6" bits, new cable; A-1 condition, 1953 Chev. pickup. $3500. Phone: 1741 Mason City, Ia.

DRILLS FOR SALE

#50 Keystone all steel drilling machine, 1941 model in good shape, without tools and truck $2000. Columbia Pump & Well Co., 11018 Kemp Mill Rd., Silver Spring, Md.

1954 model 28-L drill, complete with three strings of tools; diesel motor. Bucyrus-Erie 24-L. Armstrong 33-W. 50 Keystone. R. R. Long Company, R.R. #1, Mound Road, Jacksonville, Illinois, Phone: 512.

#50 Keystone with Bucyrus-Erie shock absorber; about 6 years old; mounted on good 1949 GMC 3 ton truck; 500′ drill cable and sand line; tools for 4,5,6,8,10, and 12″ holes! priced reasonable. Meyer Mfg. Co., 2810 Kishwaukee St., Rockford, Illinois.

#240 Star drill with 4, 5, and 6″ tools, two new drilling lines and sand line, machine mounted on two speed Studebaker truck, complete with pump business, $2250. Box 599

28-L Bucyrus-Erie drill, trailer bracket for 5th wheel; drilled less than 2000′; price cheap; can be seen at Bay State Artesian Well Co., Concord, New Hampshire.

Sullivan 200-A diesel powered; Mayhew 1000 $5250; Failing 750 $5000; Failing 1000 $4500. Fred Butler, Box 481, Pueblo, Colo.

#271 Star mounted on 1940 GMC truck with two speed axle and rebuilt motor, machine and power unit recently overhauled. Ackerson Well Drilling, Inc., MacDonald Drive, Preakness, Paterson 2, N. J., Mountain View 8-2368.

Advance drill all steel, 36′ telescopic derrick, power derrick hoist mounted on a 1947 GMC 2-speed rear axle truck. Hobert Allen, 4807 Morganthiller Rd., Hamilton, Ohio, Phone: 28773.

1954 #42 Cyclone drill mounted on 1953 2-ton Chev., used very little. Clarence Bue, 1729 Virginia Ct., Owensboro, Ky., Phone: 3-8469.

MISCELLANEOUS

Bucyrus-Erie #8 bit dresser with 10 HP 3 phase, 220 volt motor, 6″ and 8″ dies and rings; oil furnace and 3 HP blower, temper tub racks, bit racks, crane with trolley and hoist, Little giant upright hammer with motor for sizing 6″ and 8″ bits; price: $1200. Buyer dismantle at A. L. Matlock's, Route #7, Box 467, Phone #32X China Grove, N. C., Salisbury, N.C.

New and used pipe and casing 2″ to 8″; used well drills, write for new price list. Thomas H. Scheuren, 933 Fern Ave., Reading, Pa., Phone: 41287.

New pipe casing in stock: 3″, 4″, 6″, 8″, 10″, 12″. Reconditioned pipe casing in stock: 3″, 4″, 4½″, 5″, 6″, 8″, 10″, 12″. Cutting and threading facilities; attractive prices on request. H. Schwartz & Sons, 2235 North Bodine St., Phila., Pa., Garfield 6-6464.

Special Offering: New 8″ and 6″ drilling bits approx. 5′ lengths with 2″ x 3″ —7 API pins, manufactured by Star Drilling Machine Co., shipped prepaid. For Quotations write Degen Pipe & Supply Co., 4900 Sapulpa Rd., Tulsa, Okla.

Pipe threading machine Apex No. 6, Merrel Mfg. Co.; handles 4″ to 12″ threads both standard and drive pipe; will cut and bevel up to and including 14″ OD pipe; A-1 condition; price for quick sale $3500. Dunbar Drilling and Supply Co., Delta, Ohio.

FOR SALE
75000 gal. WATER TANK
Good Condition—
$3000.00 f.o.b.
Baughman Mfg. Co.
Jerseyville, Illinois

POSITION WANTED

Salesman: 15 years experience, cable tool and light rotary rigs, also pumps and well supplies. Box 594

Driller available: Five years blast hole and water well experience. For further information write: Herbert Davis, Route 1, McEwen, Tenn.

HELP WANTED

Drill Operator: Experienced on large work or capable of handling small screen wells; steady work. Douglas B. Holzem, 1975 Prairie Ave., Beloit, Wis.

Wanted: Honest, reliable man to run well drilling machinery on share bases. Bernard Shultz, Parshall, North Dakota.

Experienced water well driller for screened wells, hard rock wells pay by hour and footage. Box 604

Experienced driller; must be capable of hard casing driving, bit dressing, and pump installations; steady employment with excellent working conditions and salary. H. L. Prentice & Son, DeKalb, Ill.

Wanted: Sober cable tool operator between 25 and 35 years of age experienced in shallow and deep well drilling; strainer setting experience desirable. Henry Boysen Co., R. R. 1, Libertyville, Ill., Phone: 2-2559.

EQUIPMENT WANTED

Wanted: Armstrong 35 rope shock absorber lining in band wheel. Walter R. Dorsey, R. D. #1, West Liberty, Ohio.

Wanted: Used truck mounting well drill with steel frame shock absorber and winches for pulling pipe, about 20 to 22-W cap. any standard make; with or without tools, lines, motor or truck; condition optional, I can repair. M. D. Love, Emerald, Wis.

Drilling tools wanted: API cable joints 2¼x3¼ and larger; all sizes bits, stems; wrenches, drive heads and clamps. What have you? Must be in good condition, send list and full description and price. Hydromatics Corp., Milan, Ill.

SERVICES OFFERED

Test pumping, up to 200 gallons per minute turbine pump 6 inch wells and up. Pennsylvania and Maryland. D. W. Sunday, R.D. 1, Carlisle, Pa., Phone: Mechanicsburg PO 6-5883.

WELL BUSINESS FOR SALE

Two 20-W Bucyrus-Erie machines (7 months and 19 months old) machines running every day; 3, 4, 6, 8" tools included; five acres (could be subdivided) store building with apartment above, tenant house with 4 rooms and bath; located on main highway, near large city in lower Michigan; ill health reason for selling. Box 603

Good equipment and desirable location; would like to retire. Leonard Weber, Fowler, Michigan.

WELL BUSINESS FOR SALE

Well and irrigation business for sale: Established 11 years in the heart of a pioneer irrigation section of Southeast Georgia; five lots, warehouse, office, home with deep well, swimming pool, two small machines and all tools; $52,000 volume last year; will sacrifice for quick sale; located ½ mile west of Jesup city limits on Highway 38. P. O. Box #1, Jesup, Georgia, Phone: 3734.

For sale: Drilling business Northern Minn.; including six room modern house, furnished; 24 x 40 shop; five acres land; drilling rig, all tools, '54 ¾ ton service truck, mostly resort business; price: $12,000 terms. Martin Lahman, Walker, Minn.

WELL BUSINESS FOR SALE

P & L rotary drill mounted on '46 2½ ton Dodge truck 4 x 5 Gardner-Denver mud pump; adjustable derrick for slanting back to make possible repairs and to jet tubular wells; 200' 2" drill stem with bits from 3-6" including 4 and 5" rock bits; priced to sell $4000. James Lohse, Box 587, Elbow Lake, Minn.

Prosperous drilling business for sale in New York state; doing approximately $28,000 worth of business per year with one machine; very good equipment; owners have other interests. Box 605

Well business for sale, equipment and tools from 8 to 20", also 1 acre and 2 houses, Central California. Box 598

The Bargain Counter Can Help You In Buying and Selling Used Rigs

B. H. DEACON CO., INC.

and subsidiary

DEACON GAS FIRE PRODUCTS CORP.

STEEL and WROUGHT IRON PIPE 1/8" thru 24"

STEEL and WROUGHT IRON WATER WELL CASING

I. D.		O. D.
4 ¼"	Random	4 ½"
5 ⅝"	&	6"
6"	Half	6 ⅝"
6 ¼"	Lengths	6 ⅝"
6.538		7"
8 ¼"		8 ⅝"

American & Huntingdon Sts., Phila., Pa.
Phone GArfield 5-1000

"...when it comes to submersibles SUMO meets any home, farm or industrial need!"

From the powerful little 4-inch ⅓ hp. "baby" submersible I'm holding in my hand up to the big 30 hp. giants in the background, the Sumo line is one of the most complete in the industry.

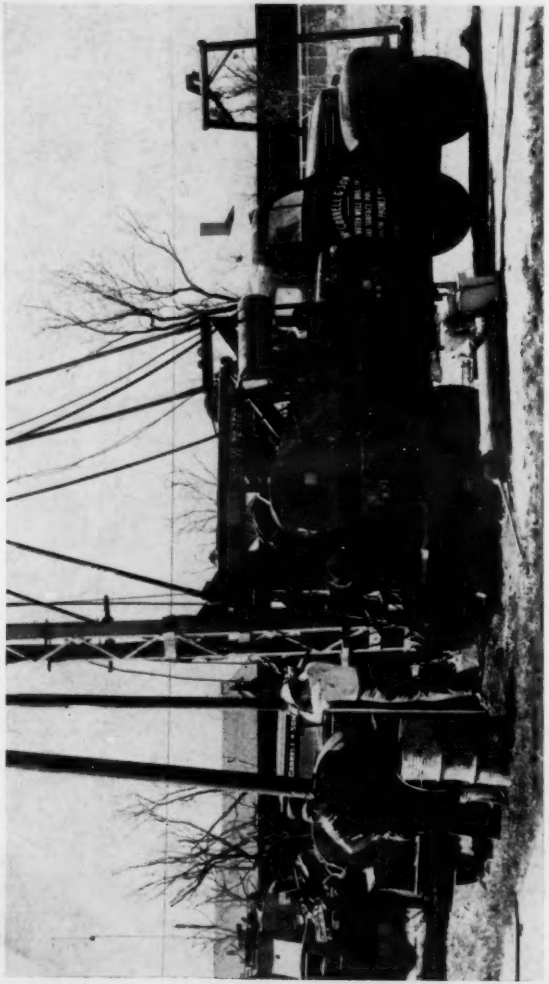
And, whether it's big or small, a Sumo carries with it the label of quality and satisfactory performance that has made the Sumo name world-famous for more than a quarter of a century.

We'll be glad to send you complete information on the Sumo line. Sumo Pumps, Inc., 308 Atlantic St., Stamford, Conn., Dept. D.

Sumo®

JOBBERS AND DEALERS — Franchises are still open in a few areas. Write for details.

SETTING THE STANDARD FOR SUBMERSIBLES FOR OVER 30 YEARS



This 22-W has just completed another domestic well in Abilene, Texas. It is one of two rigs owned by McCarrell & Son, Abilene. The other is a 24-L. The driller shown is Ralph Larkin, the bit dresser, Eugene Drake. The well was an 8-in. diameter job down to 60 feet.

The Driller

The monthly magazine for water well drillers

South Milwaukee, Wisconsin

Bulk Rate
U.S. POSTAGE
PAID
South Milwaukee, Wis.
Permit No. 3

University Microfilms,
313 North First St.,
Ann Arbor,
Michigan.
W23w 450 153

Forwarding Postage Guaranteed
Form 3547 Requested